

**To:** JAMES D WALKER [Ex. 6 - Personal Privacy]  
**From:** Rumrill, Nancy  
**Sent:** Wed 3/1/2017 9:13:46 PM  
**Subject:** RE: Question regarding step rate testing

Ok, thanks. How is it going in considering the work for Florence Copper? We need the AE write up for the SWVP petition as quickly as possible. As indicated on the attorney notes, this would involve the detailed current source analysis. We can talk at 3:30 pm, and I invited David Albright to our call.

Thanks, Nancy



United States Environmental Protection Agency

*Nancy Rumrill ([rumrill.nancy@epa.gov](mailto:rumrill.nancy@epa.gov))*

*Drinking Water Protection Section (WTR-3-2)*

*US EPA, Region IX*

*75 Hawthorne St.*

*San Francisco, CA 94105*

*Phone (415) 972-3293*

**From:** JAMES D WALKER [Ex. 6 - Personal Privacy]  
**Sent:** Wednesday, March 01, 2017 1:00 PM  
**To:** Rumrill, Nancy <[Rumrill.Nancy@epa.gov](mailto:Rumrill.Nancy@epa.gov)>  
**Subject:** RE: Question regarding step rate testing

Nancy,

# Ex. 5 - Deliberative Process

Jim

**From:** Rumrill, Nancy  
**Sent:** Wednesday, March 1, 2017 11:40 AM  
**To:** JAMES D WALKER  
**Cc:** Rao, Kate  
**Subject:** FW: Question regarding step rate testing

Hi Jim,

# Ex. 5 - Deliberative Process

Thanks, Nancy



United States Environmental Protection Agency

*Nancy Rumrill ([rumrill.nancy@epa.gov](mailto:rumrill.nancy@epa.gov))*

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**From:** Doug Bartlett [<mailto:DBartlett@clearcreekassociates.com>]

**Sent:** Wednesday, March 01, 2017 7:40 AM

**To:** Rumrill, Nancy <[Rumrill.Nancy@epa.gov](mailto:Rumrill.Nancy@epa.gov)>

**Cc:** Rebecca Sawyer <[rsawyer@excelsiormining.com](mailto:rsawyer@excelsiormining.com)>; Alison Jones <[ajones@clearcreekassociates.com](mailto:ajones@clearcreekassociates.com)>; Roland Goodgame <[rgoodgame@excelsiormining.com](mailto:rgoodgame@excelsiormining.com)>

**Subject:** Question regarding step rate testing

Nancy – in our meeting last week, you may recall we had a discussion about step rate testing to verify the fracture gradient proposed for the Gunnison project. I have attached two papers that I found online from EPA regarding the methodology for step rate testing. Are there any other papers that I should be reviewing? The step rate methodology that is described seems to match with what Excelsior did to obtain the fracture gradient value proposed in the UIC application.

Any guidance you can give me on this would be greatly appreciated!

Thank you,

Doug Bartlett

**R. Douglas Bartlett, RG, CHG**

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